A SYSTEMATIC APPROACH TO TAX COMPLIANCE: THE CASE OF ESTONIA

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Abstract

The fundamental difficulties in empirical work on tax compliance involve the vagueness of relevant definitions, the lack of reliable information on taxpayers' compliance and methodological problems. In the light of these difficulties, this paper suggests using a systematic approach to explore tax compliance. The novelty of the study lies in treating tax compliance as an integral system and in creating an illustrative model of tax compliance by systematic analysis. The model enables to determine potential risk groups and to develop measures for improving tax compliance of different types of taxpayers.

Background

All modern societies are grounded on the compulsory payment of taxes. Paying taxes is a duty for citizens. The primary interest of the state is that citizens follow this duty and behave in compliance to the tax rules. Therefore, the question is how to ensure tax compliance to the required extent? Deterrence has been the prevalent strategy to enforce tax revenue throughout history (Frey, 2003). Empirical research, however, has repeatedly demonstrated that tax compliance cannot be fully explained only by the use of coercive measures.

The traditional "enforcement" paradigm that is often used to analyses tax compliance behavior where the taxpayer is viewed as a potential criminal has become ideologically old-fashioned. A less traditional "services" paradigm recognizes the role of enforcement, but also emphasizes the role of the tax authority as a service provider (e.g., Alm et al., 2010). A new "trust" paradigm is built on the foundation of ethics (Alm, Torgler, 2011). Tax compliance is like a complex system and each administrative paradigm has very different implications for tax compliance behavior. A compliance strategy which is based only on enforcement may well be a reasonable starting point, but it is not a good ending point for closing the tax gap (Alm, Torgler, 2011).

The majority of publications related to tax compliance focus especially on tax evasion issues. The term "tax compliance" was for the first time used by Allingham and Sandmo (1972) who pointed out that the taxpayer has the choice between two main strategies: he/she may declare the actual income or may declare less than what his/her actual income is. The topic of tax compliance is much wider than merely the fulfilment of the tax declaration obligation. OECD (*Organisation for Economic Co-operation and Development)* (2004) emphasizes: "If a taxpayer fails to meet any of the taxpayer's obligations they may be considered to be "non-compliant".

The strategy to improve tax compliance must be comprehended more widely than the improved enforcement only, because beside the economic factors there are socio-psychological and political factors as well. Tax compliance is a complex decision that is motivated by a variety of factors (Gummings et al., 2009).

Tax non-compliance is a universal phenomenon. It takes place everywhere - in all societies, in all professions, in all industries, in all religions and in all economic systems (Kirchler, 2007).

According to IOTA (*Intra-European Organisation of Tax Administration*), tax arrears increased rapidly during the most severe period of the recession in most countries, except for the countries which are characterized by very high tax morale in the special literature on tax compliance, like Switzerland, and countries which implemented strategic actions to improve voluntary tax compliance before the big economic recession. For example, the United Kingdom launched in 2008 a package of supportive measures (Business Payment Support Service) specially targeted to enterprises with the aim of enhancing their voluntary tax compliance, and as a result of it there is a decrease of tax arrears in the period under study (Figure 1).
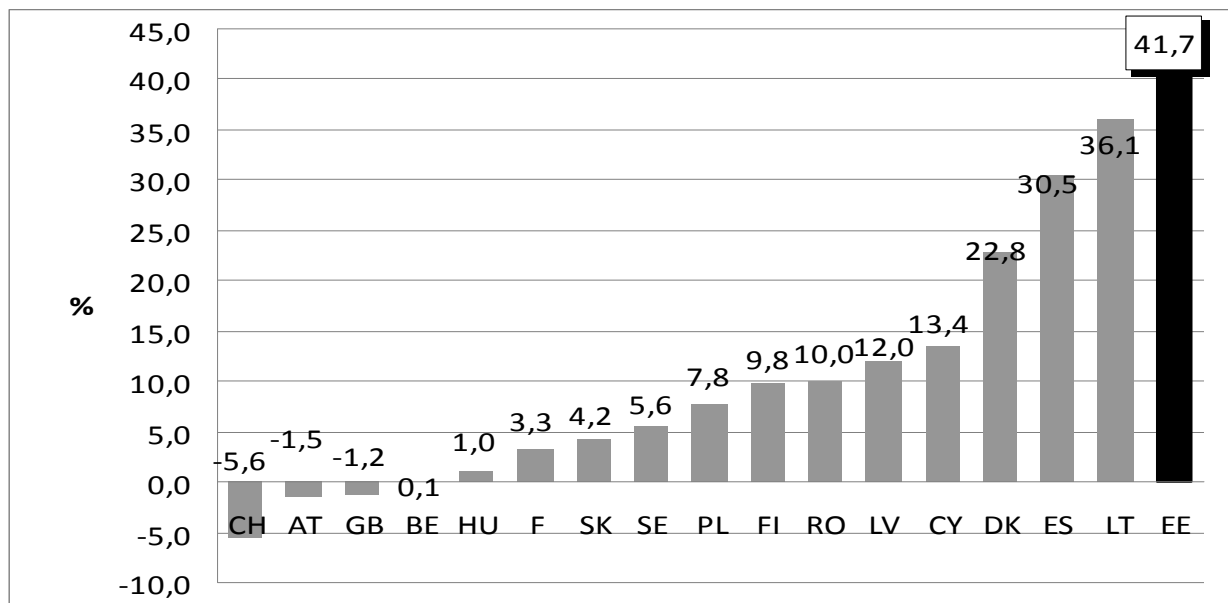
AT – Austria, *BE* – Belgium, *CY* – Cyprus, *DK* – Denmark, *EE* – Estonia, *FI* – Finland, *F* – France, *HU* – Hungary, *LV* – Latvia, *LT* – Lithuania, *PL* – Poland, *RO* – Romania, *SK* – Slovakia, *ES* – Spain, *SE* – Sweden, *CH* – Switzerland, *GB* - United Kingdom

Figure 1. The increase of tax arrears in 2009 (author's calculations based on the data of IOTA)

According to IOTA, tax arrears increased in all the three Baltic countries; the growth was the fastest in Estonia (see Figure 1). It is often argued that in transition countries tax evasion is widespread and leads to serious consequences (Alm and Martinez-Vazguez, 2003). Already in the 1960s it was pointed out that tax morale is lower in those countries which have lived for many centuries under foreign occupation (Schmölders, 2006). The evidence from the 1990s indicates that tax morale is higher in the Central Eastern European countries (e.g. Hungary, the Czech Republic, Slovenia, Bulgaria, Croatia and Poland) than in the former Soviet Union countries (e.g. Estonia, Latvia and Lithuania). Frey and Torgler (2007) have suggested that the institutional crisis that took place in many transition countries after the collapse of communism affected negatively the tax morale of citizens.

Also, the EU enlargement cannot be seen as the key to sustainable tax morale, and tax morale does not happen by itself. The analysis of tax morale over time indicates that in 7 out of the 10 Eastern European countries that joined the EU in 2004 or in 2007 there was a significant decrease in tax morale between 1999 and 2008 (e.g. Estonia[1], Latvia, Lithuania) (Torgler, 2012). "The role of the state is a key determinant in the development of tax morale" (Torgler, 2012). Taking into consideration the above-mentioned arguments, the data from Estonia is used in this study to investigate tax compliance. The aim is to search for answers to the question of how tax compliance could be influenced.

The fundamental difficulties in empirical work on tax compliance are the lack of clear definitions of compliance and non-compliance, the lack of reliable information on taxpayer compliance and methodological problems. Due to that, this paper

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[1] The dynamics of arrears in Estonia in this period has been reported in Appendix A.

suggests to use the principle of a systematic approach to explore tax compliance. In studying tax compliance as a complex phenomenon the author considers its systematic integrity. The novelty of the study lies in treating tax compliance like an integral system and in solving partial problems in the interests of the main problem.

According to the systematic approach, the key terms of the field are determined and defined, the relationships between these terms are described and alternative solutions are offered (Lorents, 2006). Thus, first an overview of the key terms and the main impact factors is given in the article. Then the main factors are defined that affect the tax behavior of an enterprise in a region which is chosen on the basis of the theoretical sources, the tax declarations of the employer and the tax discipline. Based on the obtained data, an illustrative model of tax compliance is created by systematic analysis, with the help of which it is possible to determine potential risk groups and develop measures for improving tax compliance for each type of taxpayers.

The statistics are taken from the Taxpayers` Register, the Commercial Register and data collected by the author.

The paper is organized as follows. The second section of the paper presents a brief overview of the findings of the theoretical and empirical literature on tax compliance. The third section provides the methodological framework of the study. The fourth section describes the data and presents the findings of the study. Section five concludes the paper.

Explaining tax compliance

This chapter focuses on defining the key terms related to tax compliance and on analyzing the factors that affect tax compliance. The terms are relevant in the paper for determining the elements of tax compliance as a system, the qualities of these elements and their relationships, as well as for the discussion.

Despite the fact that tax morale is frequently acknowledged as relevant to tax compliance, little is known about how it comes into being and how it is best nurtured (Feld and Frey, 2002). To understand tax compliance it is important to know also the theoretical background. This section of the paper gives a brief overview of the findings of the theoretical and the empirical studies on tax compliance.

The term "tax morale" covers the individual attitude toward tax compliance, individual ethical convictions, social norms and intrinsic motivation. In the literature on tax morale, tax morale is conceptualized as a specific motivational characteristic of a person to pay taxes, which can be regarded as individual willingness or as a moral obligation or belief that paying taxes is a contribution to the society (e.g., Torgler, 2007; Kirchler, 2007; Schmölders, 2006). Also, tax morale can be comprehended as the general understanding of moral principles and values regarding the obligation of people to pay taxes. When considering the content of the term "morale", in the author's opinion, tax morale can be viewed as a practice to pay taxes which has developed historically and has become positioned in the deep folds of human consciousness.

Tax morale is believed to be one of the factors affecting tax compliance, which has an impact on taxpayers' behavior to pay taxes or to evade them. Tax compliance

is probably the most neutral term to describe the taxpayers' readiness to pay taxes (Kirchler, 2007). In general, it means that individuals declare tax returns voluntarily, pay tax obligations timely and ensures that their accounting procedures regarding taxes are in compliance with the valid norms prescribed by the tax law (OECD, 2008).

According to the OECD, a taxpayer is tax compliant, if all the basic obligations of the taxpayer are properly performed: legal registration of economic activity, timely provision of a tax declaration or tax return, reporting of accurate information and timely payment of taxes (OECD, 2009). Hence, a taxpayer who fails to meet any of the taxpayer's basic obligations may be considered to be "non-compliant".

Therefore, the term "non-compliant" characterizes, beside tax evasion, also intentional or unintentional compliance (Webley et al. 2010).

Based on the conceptual interpretation of the term "tax compliance", it is divided into two big categories: administrative and technical tax compliance (OECD, 1999). **Administrative tax compliance** is understood as the adherence to procedural rules, the due date payment and timely performed tax payments. **Technical tax compliance** means adherence to the tax laws and correct accounting for the taxation procedure.

However, if we determine "tax compliance" by regarding the ways by which we achieve tax compliance, there are two categories: *voluntary compliance* and *enforced compliance* (OECD, 2008; Kirchler et al., 2008).

In the opinion of the OECD, good tax compliance is determined, first of all, by a good tax system, clear legal framework and good relations between the taxpayer and the tax authority. Special inducement of the taxpayer is considered to have special importance. Tax compliance depends on numerous factors. These factors could be either economic, political, or socio-psychologically, like social attitudes and individual ethical norms (OECD, 2004).

When analyzing the results of the research from the last twenty years performed in various countries, the typical factors of influence that can be found are the following.

First of all, the **economic factors** of the individual's tax behavior are related to the individual rational choice. The person evaluates if the benefit received from avoiding paying taxes exceeds the gravity of the penalty received for tax evasion. What are the possibilities of avoiding the payment of taxes and how high is an audit probability? The factors that primarily influence individual rational choices are economic benefit, enforcement of sanctions and their possible extension (e.g., Kirchler, 2007; Torgler, 2007; Wenzel, 2005).

The complexity (Taylor, 2003) of a tax system and its perceived fairness are the **political factors** which influence the readiness to pay taxes. The easier the tax system is, the less there are possibilities for tax evasion and the less the redistribution of revenues occurs. Besides the above-mentioned aspects, there are other characteristics like participatory democracy, (e.g., Frey, 2003; Torgler, 2005), trust in state (e.g., Bergman, 2002; Torgler, 2003), the involvement of citizens in making decisions related to economic and tax policy, a well-performing public administration, the interrelation between the payment of taxes and public goods, the treatment of the

taxpayer upon the collection of tax revenues by the state (Torgler, 2002), the functioning of the legal system, the perceived level of corruption (Lago-Peñas and Lago-Peñas, 2010) etc., which are also qualified as the political factors.

Besides economic and political factors of influence, the society's general beliefs, the individual attitudes of a person, the socio-demographic characteristics or the **socio-psychological factors** are essential as the determiners of an individual's tax-behavior. Human being by their nature are social beings and in the shaping of their understanding, the general attitude of the society or the behavior of other persons in the society is important (Frey and Torger, 2007). The social norms of the society influence taxpayers' compliance and their general beliefs about tax compliant behavior (Frey and Torger, 2007). If the message is spreading in the society that tax evasion is a regular activity, i.e. a rule rather than an exception, the individual willingness to pay taxes - tax morale - will decrease. If the general tendency in the society is to pay taxes honestly, tax morale will increase. The principal socio-psychological factors of influence are the individual characteristics of a person (gender, age, marital status, religious beliefs, and education), attitudes and norms, the cultural background, attitudes derived from the profession or employment status, the general attitude of the society, social norms, knowledge and understanding of taxation.

In summary, the individual's willingness to pay taxes is affected by economic, political and social factors and their mutual influence. Due to the heterogeneity of empirical research, the large number of the factors of influence and of interpretations of the economic behavior of the taxpayer, there is no one and clear answer to the question of why people pay taxes. Therefore, the author will proceed from the integral system of tax compliance to offer a potential solution to the research problem. The next section will describe the methodology and explain its choice.

Methodology

Why systematic approach?

The measurement of tax compliance is not free of bias. The measurements of tax evasion and tax compliance involve some problems: it is difficult to obtain information about tax compliant behavior. By using different methods of measurement it is possible to find different answers to the same question. The results depend on the definitions of concepts, the methodology and its implementation.

The OECD (1999) provides several different methods such as auditing; the usage of referenced data, the amendment of declarations and the research based on monitoring, analysis, and laboratory experiments etc., for evaluating tax compliance. It has not been possible, however, to apply a single universal method that would take into account all the needs and perspectives.

Which method should be used? There is no single and correct answer to the question. Alm and Torgler (2011) emphasize the following „Tax compliance sets limits to the theoretical as well as the empirical approach. The theoretical models do not reflect the complexity of issues and the research results are often ambiguous. The

empirical work is plagued by the absence of reliable information about the decisions of an individual regarding tax behavior. "

Thus, in addressing tax compliance as a complex phenomenon the present article is based on its systematic integrity and classifies the elements of the system and their relationships to achieve the optimal functioning of the system as a whole (Rozenfeld, 1975, 6). A systematic approach is being adopted for developing new designs where it is necessary to generate unconventional ideas (Pahl et al., 2007). The main systematic approach principle is: anything that can be reasonably represented as a system should be (Lorents 2006).

The use of systematic analysis to solve complex problems presupposes a simulated model of the research object. The model design depends on the structures of the problem. Tax compliance is an ill-structured system that can only partially be described mathematically, because less known and undetermined internal components and external communication are dominating (Rozenfeld, 1975). While the functioning of well-structured systems can be investigated with the help of the quantitative methods of operational analysis, since these can be described mathematically, system analysis is applied for studying ill-structured systems (Mereste, 1987; Rozenfeld, 1975).

The most characteristic feature of systemic analysis is that the final results of the analysis need not be obtained by arithmetic calculations, by being calculated into amounts or expressed in figures. The essence of systemic analysis lies in the logical elaboration of alternative possibilities and is does not lie in mathematical methods or procedures (Mereste, 1987).

Participants and design

The tax behavior of enterprises has been studied relatively little. The OECD (2010) pointed out that "The literature concerned with the drivers behind behavior most often takes the point of departure in individuals or social groups. Only little of this body of literature has businesses as a focus." Due to that the tax behavior of enterprises has been chosen as the object of research.

Based on the research question, a targeted sample has been used. In a targeted sample, the basis of choosing those to be investigated is not a statistically representative sample constructed from the general population, but the research participants are chosen according to their importance from the viewpoint of the research topic. The method of targeted sample supports the aim of the study to collect more thorough background information about the tax behavior of enterprises to ascertain the elements of tax compliance as a system and the relationships between the elements (Patton, 1990). The informative cases are those that enable to tackle phenomena that are interesting from the viewpoint of the research question. To determine informative cases, the tax behavior of enterprises in different counties was used as the basis.

Informative cases within the current study are the enterprises of the center of the region that has the highest percentage of registered enterprises with tax arrears among all registered enterprises in this region. The comparison of regions showed that Ida-

Viru County has the highest share of enterprises with tax arrears (Figure 2)[2]. In the comparison of municipalities within the Ida-Viru County the town of Narva had the highest percentage of enterprises with tax arrears. The targeted sample consists of enterprises in the town of Narva, the county centre of the Ida-Viru County.
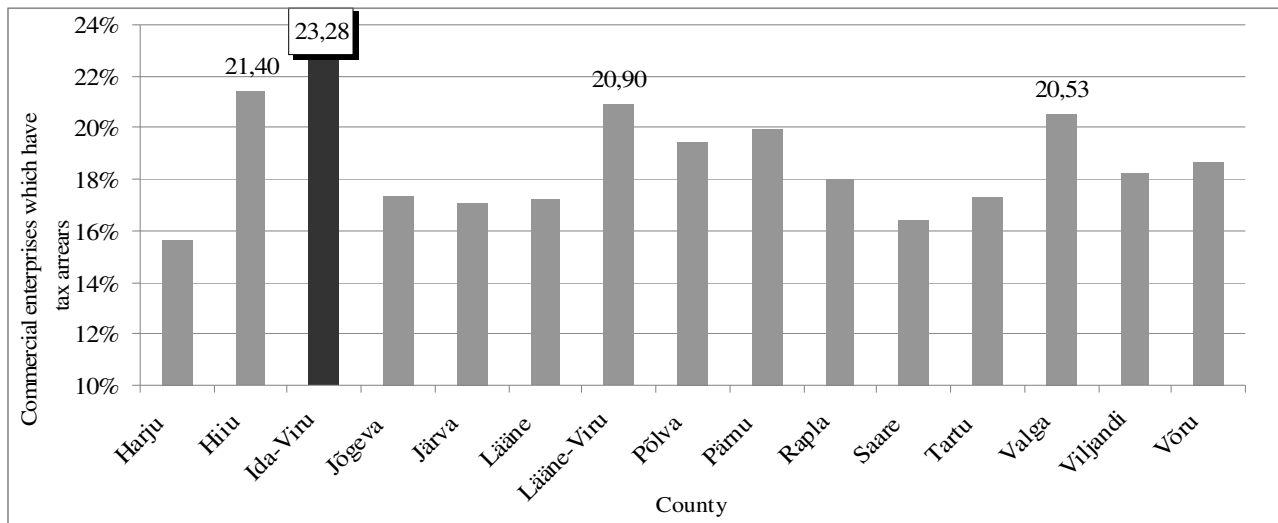

Figure 2. The relative importance of registered commercial enterprises which have tax arrears throughout all counties of Estonia (Author's calculations based on the data of the Estonian Tax and Customs Board and of the Estonian Commercial Register)

All enterprises in Narva which paid out salaries (i.e. enterprises who employed people) were included in the study in the period from April 2009 to March 2010. The sample consisted of 742 business enterprises in Narva. The tax behavior of enterprises was assessed on the basis of declarations income tax and social tax, contributions to the mandatory funded pension and the unemployment insurance premiums[3] as well as tax discipline (the statistical indicators of the companies surveyed are presented in detail in Appendix B). The data for analysis included the number of employees and the average wage. In the study relationships were searched for between the average wage and the number of employees. The data were differentiated in various directions. The results of the analysis revealed that the average wage increases as the number of employees increases. To ensure the reliability of the data, the data sets were repeatedly redistributed and their reliability tested. Based on the analysis, groups of enterprises were found where envelope wages are probably paid (see Appendix C). These results served as the basis for determining the factors that affect the tax behavior of enterprises.

By taking into account the theoretical sources and the analysis, the factors affecting tax compliance are determined, i.e. the components of tax compliance as a system and the relationships between these components are defined. Based on the data obtained, an illustrative model of tax compliance has been created which enables to determine potential risk groups and to suggest measures for improving tax

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[2] As of Oct 1, 2010 there were 114 508 companies registered in Estonia, out if which 19370 have tax arrears.
[3] declaration by employer

compliance for each type of taxpayers. The proposed model that simulates the research object and the research results will be presented in the next chapter.

Results

To solve the research problem, the author employs its systematic integrity. According to the systematic approach, the main factors influencing the tax behavior of enterprises in a certain region, which has been chosen based on the collected data, are determined and defined, and the relationships between these factors are described. Tax compliance as a complex phenomenon is viewed as a system which can be divided into separate, relatively independent and in some ways related elements. The systematic approach does not prescribe determining and listing all potential elements, their qualities or relationships, but only those elements, qualities and relationships that we wish to analyze as an integral system (Lorents, 2006).

According to the systematic approach, three main factors of tax compliance of enterprises were determined based on the data collected. By considering the information received from tax returns submitted by enterprises as well as the tax discipline of enterprises, it was concluded that the financial condition of enterprises and the attitudes of top executives to tax compliance, i.e. the economic factors, affect the tax behavior of enterprises. Since in the systematic analysis it is important to pay attention to the environment where an enterprise is operating, the author has chosen the external environment of the enterprise, in other words the social factor of tax compliance as the third factor affecting tax compliance. Deriving from the aims of the study, the theory and the methodology, the elements of the system include the financial conditions of the enterprise, the attitudes of its top management and the external environment.

In the system approach, the system is considered as the integrated whole of elements which becomes something more than the sum of the structural units (Schneider, 2000). The systemic approach does not draw on a unit but on a systematic whole which presupposes the creation of a model to simulate the research object.

As described above, the systematic analysis does not mean exercising mathematical methods, but it is an approach where the alternative methods are systematically elaborated. Therefore, tackling such complicated systems requires the use of hierarchical methods which are based on intuition, experience and logic (Rozenfeld, 1975).

The three-dimensional model simulating tax compliance was based on the system elements defined earlier, i.e. the factors affecting the tax behavior of an enterprise, by grouping them into three as follows:

I financial status

II attitudes of top executives to tax compliance

III external environment of the enterprise (socio-cultural environment).

In order to establish the interaction between the system (tax compliance) elements, the above-mentioned three groups were divided into subgroups regarding their relevant features.

Financial status of an enterprise

1.1   Enterprises in which the economic situation is good (they have no tax arrears). The monetary resources are available for performing payments.

1.2   Enterprises with temporary economic difficulties (taxes are paid with a delay). Monetary resources are available, but if the taxes are paid timely and in full amount, the enterprise will temporarily lack current assets for economic activities.

1.3   Enterprises with serious economic difficulties where the resources for paying taxes are lacking (enterprises that have continuous tax arrears).

Attitudes of top executives (law-obedient mentality, comprehension of the right behavior and valid legal acts, attitude to tax compliance)

2.1.   High level of legal comprehension (taxes are paid on time).

2.2.   Inclination "to play at the borders" (taxes are paid with a delay).

2.3.   Low level of legal comprehension (taxes are paid only when state enforcement is exercised).

External environment of an enterprise or the socio-cultural environment

3.1.   Society does not recognize non-compliant behavior.

3.2.   Society regards non-compliant taxpayers like "free-riders", a lenient attitude.

3.3.   Society sympathizes with the non-compliant taxpayer and considers cheating the state the "holy thing".

Within the context of these factors and features, the three-dimensional taxpayer model has been designed on the basis of factors influencing tax behavior (Figure 3).
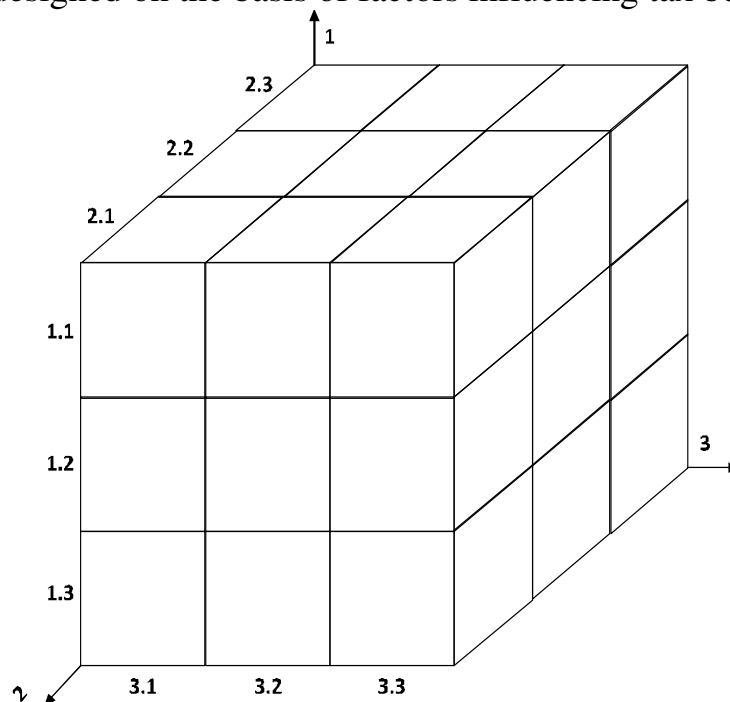

Figure 3. The integral model of enterprise diversity (compiled by the author)

Every three-dimensional cube on this matrix represents a certain type of the taxpayer who is influenced by the combination of factors affecting tax behavior. There are 27 types of taxpayers; some of them have been listed for illustration below:

- Type (1.1; 2.1; 3.1): taxpayer in a good economic position; high level of judicial/legal consciousness; acts in the environment where the society does not accept tax evasion or avoidance.

- Type (1.1; 2.2; 3.1): taxpayer in a good economic position; inclines to "play at the borders"; acts in the environment where the society does not accept tax evasion or avoidance.

- Type (1.1; 2.1; 3.3): taxpayer in a good economic position; high level of judicial consciousness; acts in the situation where society regards tax evasion leniently, etc.

By examining the model as a whole, we can draw the conclusion that non-compliant persons represent the factor 2.3 (low level of judicial consciousness) and the factor 3.3 (society regards non-compliant taxpayer leniently). Therefore, the risky types are:

- Types 1.1; 2.3; 3.3 – the enterprise has a very good financial status, top-executives have low level of judicial consciousness, the recurrent social group of these executives acknowledges tax avoidance. It is very characteristic of these types to avoid taxes by using low tax rate territories (offshore) and other schemes to do so.

- Types 1.2; 2.3; 3.3 – the enterprise has solvency problems, there are no resources to pay taxes timely and to the full extent; top executives' level of judicial consciousness is low- it is an enterprise where there are salary payment schemes, i.e. beside the official salary there is an "envelope salary".

- Types 1.3; 2.3; 3.3 – the enterprise where the "envelope salary" is paid.

To influence different types of taxpayers and to increase tax compliance various measures must be implemented by taking into account the factors affecting enterprises' tax behavior.

Regarding the type 1.1; 2.3; 3.3 where the economic position of the enterprise is good but the judicial consciousness level of top executives is low and the society acknowledges tax avoidance, it is important that top executives would be left without public support. For this taxpayer type it is essential that the society would condemn tax avoidance.

The author considers it important to underline that the systematic approach will not provide us with instructions on how to resolve particular problems, but it only provides recommendations as to which steps must be taken in order to find a solution.

As a result of this research, the complete theoretical picture of a three-dimensional model reflecting tax compliance has been designed, which makes it possible to determine the risk groups and to find measures for each type of taxpayer sin order to improve tax compliance. It is rather obvious now that the same measure cannot be used to the same extent in all enterprises. Since in the system analysis the environment where the system functions is of high importance, we need to design a separate three-dimensional model for each region and for each economic sector in order to develop strategies.

Discussion and conclusion

Tax compliance has been estimated in the past and will be estimated in the future by using a variety of different methods. It has not been possible so far to implement a single universal method which would take into consideration all needs and perspectives. Therefore, I would like to add to the scientific literature as an alternative possibility the treatment of tax compliance as an integral system and the solving of partial problems in the interests of the main problem. The systematic analysis does not provide ready guidelines as to how to solve specific problems, but we get recommendations about what should be done in order to find suitable solutions. Thus, the aim of the analysis is always the choice of a certain policy in its widest meaning. As the author, I am aware of the problems that the systematic analysis is confronting - decisions can be subjective, evaluations are intuitive and data contains uncertainty, etc. New questions will certainly emerge. However, even when an idea involves many problems, it does not mean that we should not think about it. The new idea will offer hope, which is not the case with these ideas which are never spoken out.

The current paper has confirmed that beside economic indicators the relevant factors affecting the taxpayer's tax behavior include the attitudes of top executives as individuals, their understanding and beliefs about tax compliant behavior and the environment where the enterprise is operating. The society's acceptance of tax avoidance as a regular behavior affects people's readiness to pay taxes in the negative direction (Porcano, 1988). Tax evasion and attitudes towards tax compliance differ not only in the comparison between different societies but also inside the societies (Poiesz, 1988). Therefore, it is necessary to observe tax compliance as a system in each region and economic sector separately.

One of the essential conditions of the systematic analysis is to consider the environment where the system is functioning, because only then it is possible to ensure that a model reflects the actual situation. The same approach is valid in case of tax compliance; it cannot be observed isolated from the environment. Different authors have drawn attention to the fact that persons´ readiness to pay taxes depends on the behavior of other people and their attitudes (Frey and Meier, 2004), or the socio-cultural environment. Taxpayers are strongly influenced by the notion of how they perceive the behavior of other taxpayers - if the taxpayer believes that tax evasion is a regular activity, tax morale will decrease. If the taxpayer believes that the others are honest and tax evasion is condemned, tax morale will increase (Frey and Torgler, 2007). The dissemination of positive information has a considerable positive effect on taxpayer behavior (OECD, 2010).

One of the basic features of taxpayers' behavior, besides their personal norms, is the specific experience that stems from the environment, involving communication between the revenue body and the taxpayers (OECD, 2010). Therefore, paying taxes is a complex social activity which calls forth the need for social cooperation. Consequently, we should make more efforts to contribute to the shaping and influencing of general attitudes in the society. Moreover, OECD (2010) has emphasized that the revenue body should send a clear signal to the general public that

non-compliant behavior is viewed by the society as unacceptable. There is no simple answer as to how to best influence taxpayers' behavior. The revenue bodies can make more effective use of their limited resources to develop strategies which will have a sustainable impact on tax compliance. The amount of academic research in the field does not change the situation unless the revenue body develops strategies to improve tax compliance.

In the author's opinion it is necessary, first of all, to organize training courses and do communications work in the business sector through professional associations as well as through business associations, which may initiate the honest taxpayer's mentality and draw attention to the privileged position of non-compliant taxpayers in business competition.

It is important that the society recognizes and accepts honest and tax compliant behavior because it provides the society with the necessary tax revenues, the possibility to recover from economic recession and to secure an honest environment to promote entrepreneurship.

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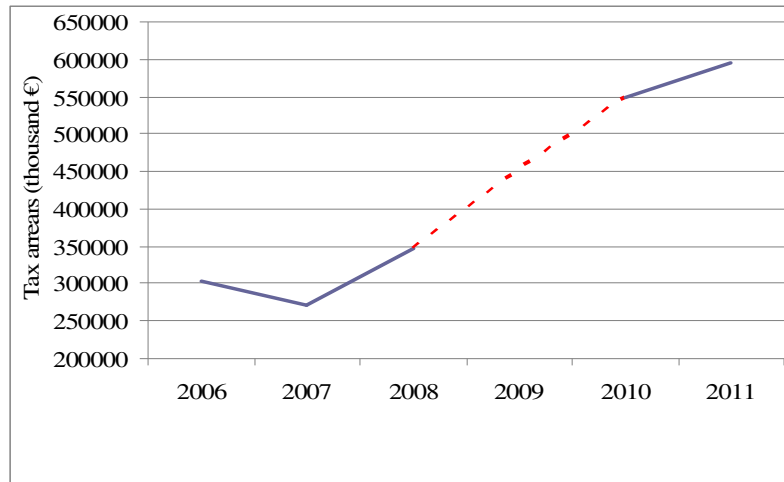
Appendixes

Figure 4. The dynamics of arrears 2006 – 2011 (author's calculations based on the data of the Estonian Tax and Customs Board)
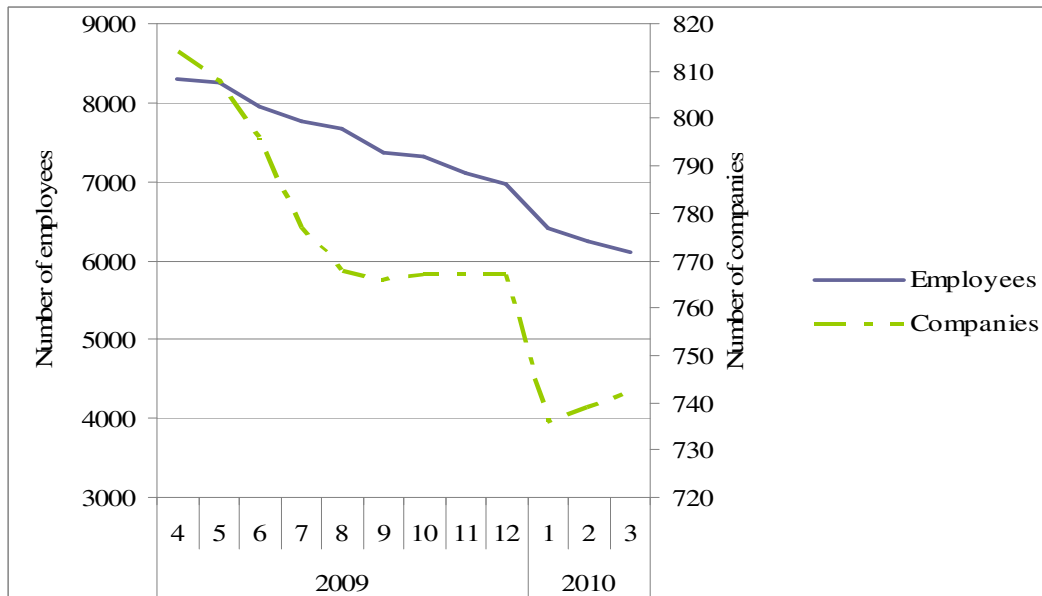

Figure 5. The dynamics of companies and number of employees (Author's calculations based on the data of Estonian Tax and Customs Board)
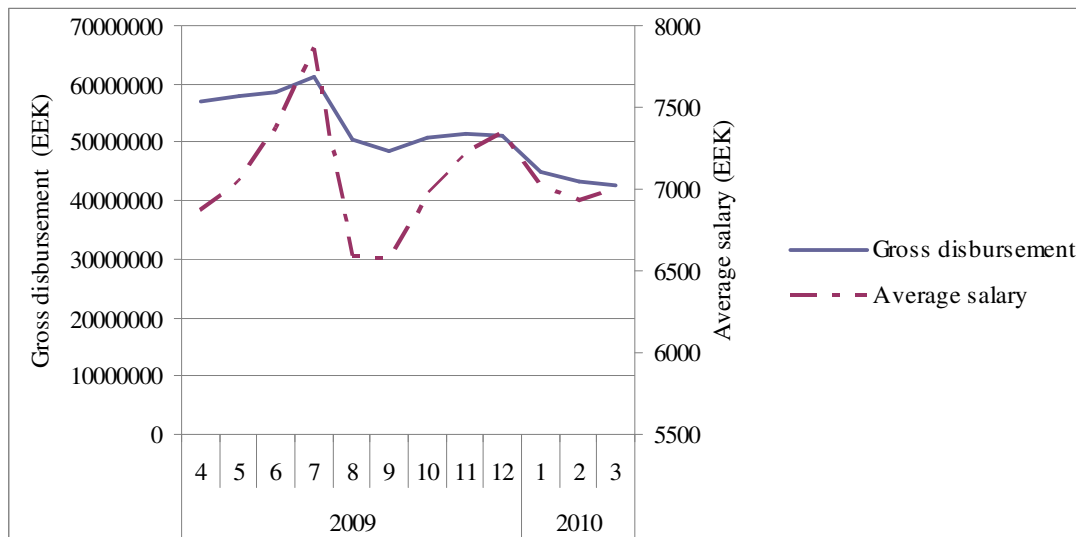
Figure 6. The total amount of payments and the dynamics of the average payout of the companies surveyed (Author's calculations based on the data of Estonian Tax and Customs Board)

Statistical analysis was based on the last month of the observed period on the basis of which data was differentiated between different directions depending on the number of employees and the size of payments. First, the data were analyzed based on the average number of employees, the results of which showed that in Narva prevail small companies with up to 10 employees with an average pay-out of the amount of about the minimum wage (Figure 7). The study estimates that the average wage increases with increase in the number of employees.
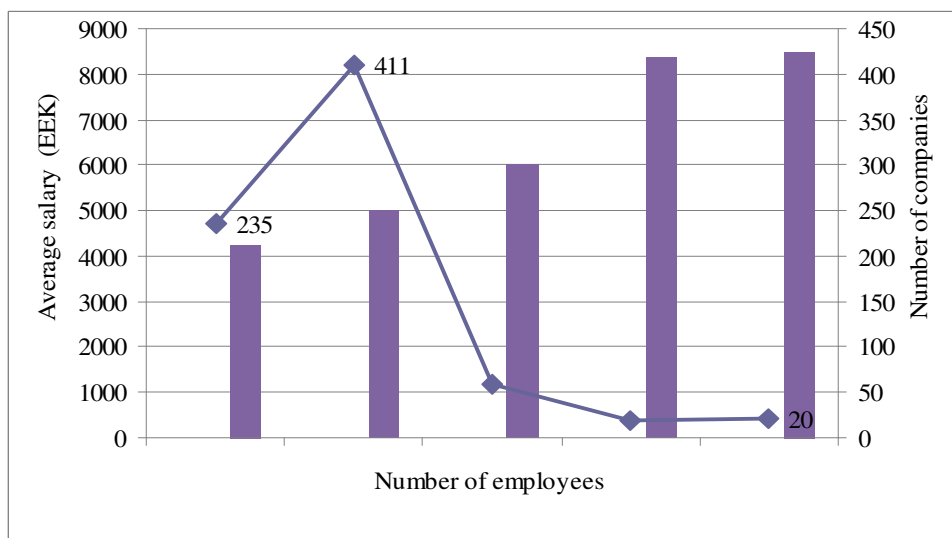

Figure 7. The average payout and the number of employees in the surveyed companies (Author's calculations based on the data of Estonian Tax and Customs Board)

Clearly the mean the payments that fall below the minimum salary are not reliable. For the purpose of checking the reliability of the data, the composition of data is once again divided into six according to the size of payments (Table 1) and

come a new ranking is compiled on the basis of the total disbursement of the group (Table 2).

Table 1

Grouping of the data on the basis of the size of payments

	The average salary (EEK)					
	< 4 350	≥ 4 350 < 5 000	≥ 5 000 < 8 000	≥ 8 000 < 10 000	≥ 10 000 < 15 000	≥ 15 000
Number of companies in the group	286	204	171	39	33	9
Number of employees in the group	1 121	712	2 441	629	1 137	67
The total payment for the group	3 665 784	3 235 171	15 431 594	5 548 399	13 737 173	1 098 595
Average salary	3 270	4 544	6 322	8 821	12 082	16 397

Source: Compiled by author.

Table 2

Grouping of the data on the basis of total amount paid

	The total payment for the group (EEK)	Number of employees in the group	Number of companies in the group	The average salary for the group (EEK)
1	15 431 594	2 441	171	6 322
2	13 737 173	1 137	33	12 082
3	5 548 399	629	39	8 821
4	3 665 784	1 121	286	3 270
5	3 235 171	712	204	4 544
6	1 098 595	67	9	16 397

Source: Compiled by author.

The data is regrouped repeatedly and systematically and the reliability of data is tested and on the basis of the results of the analysis groups 1-3 can be established (Table 3) and divided by the average wage into good, optimal and satisfactory. The pay-outs of groups 4-6 are unreliable, and very probably in those enterprises envelope wages are paid. The likelihood of payment of envelope salary will increase from top to bottom, or it is the least likely in group 1 and most likely in group 6.

Table 3

Grouping the data by analysis of payment discipline and attitudes

Number of the group	Average salary (EEK)	Groups on the number of employees				
		1	2-10	11-25	26-50	>50
1.	16 397	4	4	0	1	0
2.	12 082	4	15	4	5	5
3.	8 821	4	24	6	1	4
4.	6 322	38	86	29	9	9
5.	4 544	101	92	9	2	0
6.	3 270	84	190	10	0	2

Source: Compiled by author.

On the basis of the results of the analysis of the number of the companies surveyed, the size of their workforce, the dynamics of the size of the pay-outs and the average pay-out, compared to the main factors affecting taxpaying behavior of a company, the company's financial position and the top management attitudes towards paying taxes (possible payment of envelope salary), is the basis for building the model simulating tax compliance.

СИСТЕМНЫЙ ПОДХОД К НАЛОГОВОЙ ОТЧЕТНОСТИ: НА ПРИМЕРЕ ЭСТОНИИ

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Аннотация. Основные трудности в эмпирической работы по соблюдению налогового законодательства предполагают неопределенность соответствующих терминов, отсутствие достоверной информации по налогоплательщикам и методологические проблемы. В свете этих трудностей, данная статья предлагает использовать системный подход для изучения соблюдения налогового законодательства. Новизна исследования заключается в трактовке и соблюдении налогового законодательства как целостной системы и, в создании иллюстративной модели соблюдения налогового законодательства на основе систематического анализа. Модель позволяет определить потенциальные группы риска и разработать меры по улучшению налоговой дисциплины различных видов налогоплательщиков.

Ключевые слова: Эстония, соблюдение налогового законодательства, налоговый несоблюдение, уклонение от уплаты налогов, уклонение от уплаты налогов, налогоплательщик, системный подход, задолженность по налогам, налоговая мораль.